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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,386	06/26/2006	Yoshiyuki Nagaoka	58579US004	6071
32692 7590 12/22/2008 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER SANDERS, KRIELLION ANTIONETTE				
ART UNIT 1796		PAPER NUMBER		
NOTIFICATION DATE 12/22/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
LegalDocketing@mmm.com

Office Action Summary

Application No.

10/549,386

Applicant(s)

NAGAOKA ET AL.

Examiner

Kriellion A. Sanders

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-37 and 39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-37 and 39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 9/23 and 10/24.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 27-29, 31, 35 and 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Svigelj et al., US Patent No. 4,166,058.

Svigelj et al discloses a color sensitive composition comprising an ethylenically unsaturated elastomer, a phenolic resin, an inorganic filler, an epoxy resin, a heat sensitive dye and sulfur. See the abstract and col.1, lines 44-46. The disclosed example exhibits a color change from blue to green at 177° C. The substrate in this example is a brake shoe and although patentee does not indicate the color of the brake shoe, they are commonly black in color. Therefore, the subject matter of claims 27-29, 31, 35 and 37 of the present application is obvious if not fully anticipated by the reference.

Response to Arguments

4. Applicant's arguments filed 9/16/08 have been fully considered but they are not persuasive. Applicant argues that Svigelj et al does not disclose every element of the present claims particularly that the surface to be coated or brake shoe is black and that the marker is irreversible to an invisible color. This argument is not persuasive in that the brake shoe is inherently black and in that undergoing a color change from blue to brown would render the marker invisible on a black surface in that brown is a lighter color than black. Patentee need not use applicant's specific terminology to describe an effect that is essentially the same as applicant's. Since patentee does not indicate a temporary color change the ordinary practitioner would assume the color change to be permanent, particularly in that brown is derived from blue and then green.

Claims 16-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edenbaum et al, in view of Radcliffe et al., US Patent No. 3,450,556

Edenbaum discloses a sterilized device containing a marking, which comprises a carder film and a mixture of zinc diethyldithiocarbamate and bismuth oxalate. The first example of the table in col.3, line17 shows a marking material comprising bismuth oxalate that is capable of changing color from yellow to green at a temperature of 121 degrees C (250°F). The compositions are most useful in temperature indicator tapes that are cured by heat. The tapes change color upon heating to indicate that sterilization is complete. Patentee is silent as to the color of the tapes or other substrates, but the use of black tapes would be an obvious design choice to the ordinary practitioner of the art. Since patentee uses the same bismuth oxalate as applicant, the properties of this pigment as set forth in the present claims would be the same in

the patented invention. Since bismuth oxalate is recognized as an effective thermal cure indicator, applicant's invention is obvious. Therefor the subject matter of claims 27-29 and 31-37 of the present application is obvious if not fully anticipated by the reference. Also see the abstract, col. 2, line 65 through col. 3, line 13, col. 3, line 70 through col. 4, line 16 and claims 4 and 5 of Edenbaum.

5. The color change pigment is used in an amount of 0.5 to 5.0 parts by weight of the resin carrier. Therefor the subject matter of claims 27-29 and 31-37 of the present application is obvious in view of the patented disclosure.

Radcliffe et al discloses a traffic marking comprising a polymer and a pigment which changes color. Radcliffe et al indicates that a vinyl acetate acrylic acid copolymer may be used as the binder. This encompasses the acrylic resins of applicant's invention as well as the vinyl resins of Edenbaum et al. The difference between Radcliffe et al and claim 16 of the present application lies in the color change mechanism. In Radcliffe et al., the color change is chemically induced, (sulfide ion under basic conditions). In the present invention, the color change is thermo-sensitized in the present application. See the abstract and col. 2, lines 11-44.

Since the objective technical problem in Radcliffe et al is to provide an alternative traffic marking which changes color, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to utilize an alternative color changing pigment such as that disclosed by Edenbaum which changes color through thermal inducement, absent a clear showing of unexpected results attributable to such a variation.

Heating is a required process step to induce the color change in the Edenbaum et al pigments. It would have been obvious to one of ordinary skill in the art to utilize a burner to heat the pigment

material to induce the change in color. Therefore, the subject-matter of claims 16-26 and 38-39 are obvious over the cited prior art.

Response to Arguments

6. Applicant's arguments filed 9/16/08 have been fully considered but they are not persuasive. Applicant argues that Edenbaum et al does not does not disclose every element of the present claims particularly that the surface to be coated is black and that the marker is irreversible to an invisible color. This argument is not persuasive in that selecting the color black for the coated surface or tapes of Edenbaum is an obvious design choice. Since patentee does not indicate a temporary color change, the ordinary practitioner would assume the color change to be permanent.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122. The examiner can normally be reached on Monday through Thursday 8:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kriellion A. Sanders/

Primary Examiner, Art Unit 1796

Kriellion A. Sanders
Primary Examiner
Art Unit 1796